Parking Studies

Parking studies are performed to determine location, use and adequacy of existing parking facilities. Information can also be gathered for planning parking facilities. Normally, studies are concerned with specific problem areas and are made in an effort to improve efficiency and safety. They may be performed with origin-destination and vehicle registration studies.

Parking facilities are either permanent or temporary. Permanent parking facilities are an integral part of installation traffic and building plans. They may be either on-street or off-street parking. Temporary parking areas are established by Military Police to service a particular event or occasion.

Some situations may indicate a problem in permanent parking facilities. Such situations are:

Excessive, illegal and overtime parking.

Excessive cruising to find a parking space.

Extensive congestion in the traffic flow caused by cars attempting to find a parking space.

Parking in excess of 400 feet (120m) from the desired destination of the vehicle occupants.

Types

There are three types of parking studies:

- Inventories
- Usage
- Facility service

Inventories

A parking inventory is a physical count of existing parking spaces. It includes on- and off-street parking. For marked spaces, a numerical count is made. For unmarked spaces, a rolling measuring device is used to make an accurate estimate of the number of possible spaces. For angle parking, an area 9 feet (3 meters) wide and 18 to 20 feet (5 to 6 meters) long is a normal space. For parallel parking, an area 18 to 20 feet wide is normal. The forms shown in the following two figures can be used to record information concerning this study:

Usage Studies

Usage is a significant measure of parking adequacy. It is based on the number of vehicles in a specific area and the length of time vehicles are parked in the area. The survey is conducted during normal duty hours or during maximum usage hours for special activities such as the exchange or commissary. One person should be able to check each parking space in an area—once during a 15-minute period for on-street parking, and once during a 30-minute period for off-street parking. One observer can check about 60 curb spaces in 15 minutes. The observer should walk a predetermined course and record on a field sheet the license plate or decal numbers of vehicles. The form on page 161 is a sample field sheet used in such studies.

The same route is used at intervals of 15 to 30 minutes. Check marks indicate a car is in the same location noted on previous trips. The letter "E" indicates an empty space and the letter "R" indicates a reserved space. When the survey is completed, each line is read horizontally to determine the time a vehicle occupied a particular space, or the use of that particular space during the survey. The data is then summarized on the summary sheet (page 162).

BLOCK NO. _____

Sketch Block above and identify boundary streets.

List the following on each block face:

1. No. of available parking spaces.
2. Angle parking 90° 60° 45° If applicable.
3. No. parking zones
4. Time limit zones.
5. Driveways

DATE _____ RECORDER _____

Parking Inventory Field Sheet for On-Street Parking

Location _____ of _____ Street

From _____ to _____

Weather _____ Time: From _____ to _____

Record Starting Time of Each Roundtrip at Top of each Column Below

Parking Usage Field Sheet

1. LOT NO. _____

2. Facility served: _____

3. Ground area covered _____ sq. ft.

4. No. of vehicle stalls _____

5. Parking time limits.

6. Parking surface _____ Condition _____

7. Stall marking details: _____ _____

_____ _____ _____

_____ 90° _____ 60° _____ 45° Other _____

Width of stall _____

Depth of stall _____

8. Sketch lot on reverse side of this sheet showing—
   (a) Outside dimensions of parking area.
   (b) Location and dimensions of entrances and exits.
   (c) Aisle widths.
   (d) Circulation pattern.
   (e) Layout of stalls showing number of stalls in each row.

DATE _____ RECORDER _____

Parking Inventory Field Sheet for Off-Street Parking

LOCATION:

Parking Duration	Vehicles		Vehicle Hours		Parking Duration	Vehicles		Vehicle Hours	
	Number	Percent	Number	Percent		Number	Percent	Number	Percent
					Totals				

DATE OF STUDY
AVERAGE DURATION
PERCENT OVERTIME

PARKING SPACES AVAILABLE
SPACE HOURS AVAILABLE
UTILIZATION PERCENTAGE (EFFICIENCY)

- **Parking Duration**—Time the same vehicle is observed in the same parking space.
- **Vehicle Number**—A count of vehicles that parked in a space for each specified length of time.
- **Vehicle Hours**—Found by multiplying the parking duration by the vehicle number.
- **Average Duration**—Found by dividing the total vehicle hours by total vehicle number.
- **Percent Overtime**—Found by dividing the number of vehicles observed parking overtime by total number of vehicles.
- **Space Hours of Parking Availability**—Found by multiplying the number of parking spaces by the number of hours the spaces are needed (usually 8, 10, 12 or 24 hours).
- **UtilizationPercentage**—Total vehicle hours divided by space hours. Also known as the efficiency of the parking area.

Explanation of Parking Usage Summary Sheet

Facilities Parking Service

This study is of a parking area which services a particular facility or building. A questionnaire, such as the one below, is used. The study can be done at the scene when the driver parks his vehicle or by placing the questionnaire under the windshield wiper blade and requesting it be returned. Each questionnaire should identify the space the vehicle occupied. This study can be used with an origin-destination study.

Uses

Parking inventories are useful in determining geographical distribution of parking areas on an installation. They are also useful in determining the capacity of each parking area.

Parking Questionnaire

Date _____

Parking Space _____

1. What was the origin of the trip?
   ( ) Offpost. Entered Gate No. _____.
   ( ) On-post. Departed _____
   (Bldg. number, unit or activity)

2. What is immediate destination? _____

3. What is purpose of trip?
   ( ) Employment
   ( ) Official trip
   ( ) Personal errand
   ( ) Other _____
   ( ) Shopping
   ( ) Eat
   ( ) Recreation

4. Parking Times
   In _____hours.
   Out_____hours.

5. Type of vehicle
   ( ) POV
   ( ) Military commercial vehicle
   ( ) Military tactical vehicle
   ( ) Trucks
   ( ) Taxi

6. How often is this parking area used? _____

7. Suggestions (if any) for improvement of parking. _____

_____

_____

Sample Questionnaire for Facilities Parking Service Study

Parking usage surveys are useful in determining areas with the **greatest parking demand** and where parking problems are critical due to inadequate capacity. They are helpful in identifying areas where **time limits** are **not consistent with usage.** This further aids in determining whether enforcement efforts should be lessened or increased. They **evaluate efficiency** of parking areas. An efficiency of 85 percent is considered maximum in short-time parking areas and 95 percent is maximum in long-time parking areas.

Parking facility service studies are useful in determining if parking lots are **properly located** and are the **proper size** for the area served. They also assist in determining needs when planning new or relocated facilities.